

Amendments to the Claims

This listing of claims will replace all prior listings of claims in the application.

Listing of Claims

Please cancel, without prejudice, pending Claims 1-43; Applicants reserve the right to prosecute such claims in a continuing (continuation, divisional or CIP) application during the pendency of the present application.

1-43. (Cancelled)

44. (New) A lighted handle, comprising:

an elongate light transmitting member having first and second end portions flanking a hand graspable portion;

spaced, first and second, support surface engageable, mounting members carrying said first and second end portions of said light transmitting member, said mounting members having respective open portions in which said first and second end portions are fixedly recessed; and

a narrow beam light emitting diode fixedly located within said first mounting member and aimed longitudinally of said light transmitting member to make said light transmitting member more visible.

45. (New) The apparatus of Claim 44 in which said light transmitting member first end portion has a length axis, said light emitting diode having an emitted light beam axis parallel to, but spaced from said light transmitting member first end portion axis.

46. (New) The apparatus of Claim 44 in which first mounting member open portion is a recess which comprises (1) a relatively larger diameter outboard portion receiving said light transmitting member first end portion and (2) a relatively smaller diameter inboard portion receiving said light emitting diode.

47. (New) The apparatus of Claim 46 in which said recess outboard and inboard portions have longitudinal axes which are parallel but radially spaced.

48. (New) The apparatus of Claim 44 in which said first mounting member comprises a bracket having a foot including a mounting surface, a leg curving from said foot and having a free end portion spaced from said foot and mounting surface, said open portion of said first mounting member defining a recess, said leg free end portion being hollow and indented by said recess, said light transmitting member being formed as a bar, said bar and bracket having adjacent outer peripheral surfaces which are mutually flush, such that said bar continues the peripheral contour of said bracket in a visually unbroken manner.

49. (New) The apparatus of Claim 44 in which said light transmitting member first end portion has a free end, said light emitting diode being located adjacent to said free end of said elongate light transmitting member and having a self-focused light beam aimed into said free end of said light transmitting member, said light emitting diode having relatively low voltage and electric current supply connectable, electric conductors.

50. (New) The apparatus of Claim 49 including a low voltage electric current supply stepped down in voltage from a conventional household electric current supply and connected in circuit with said conductors.

51. (New) The apparatus of Claim 49 including a relatively low voltage and relatively low current supply comprising an electric storage cell and connected in circuit with said conductors, said first mounting member comprising support structure fixing said elongate light transmitting

member and light emitting diode and electric storage cell adjacent to each other, said support structure including a releasable cell holding member replaceably locating said cell with respect to said support structure.

52. (New) The apparatus of Claim 51 in which said first mounting member comprises a hollow bracket supporting said first end portion of said elongate light transmitting member.

53. (New) The apparatus of Claim 51 in which said first mounting member comprises a wall to which said one end portion of said elongate light transmitting member is fixed.

54. (New) The apparatus of Claim 44 in which said light emitting diode has a voltage drop across it less than 5 volts and a current flow therethrough less than 100 millamps.

55. (New) The apparatus of Claim 44 including a person-engageable bathroom fixture selected from the group consisting of a toilet, a bidet, a spa, a shower stall, and a bathtub, said handle being fixed on or adjacent said fixture.

56. (New) The apparatus of Claim 44 in which said elongate light transmitting member has a peripheral surface firmly and fixedly graspable when dry and when wet.

57. (New) The apparatus of Claim 56 in which said elongate light transmitting member is an extrusion and said firmly graspable peripheral surface thereof comprises integrally extruded, circumferentially alternating, axially extending ribs and grooves.

58. (New) The apparatus of Claim 44 in which said mounting members include walls and said respective open portions include holes through which said end portions of said light transmitting member extend, a first said wall having a

portal closure openable to access an area behind said wall, and including an electric current supply unit supported in said area.

59. (New) The apparatus of Claim 44 including a current supply unit comprising a replaceable battery pack releasably supported by said first mounting member, said light emitting diode being of a type:

(a) which is self-focused in a relatively narrow light beam wherein the light output on its central axis is reduced to half at an angle more than 45° off that axis, such that substantially all of its light output is applied to the opposed end of said light transmitting member,

(b) having its rated light output at an electric current level substantially less than 100 millamps,

(c) having at least dim light output at electric current levels as low as about 100 microamps,

(d) having an internal resistance which rapidly, nonlinearily increases as the voltage applied across it decreases,

(e) having an internal resistance which increases as current flow through it decreases, so as to maximize the time period between battery pack replacements while still producing useful levels of light.

60. (New) A lighted handle, comprising:
an elongate light transmitting bar having first and second end portions;

spaced, first and second, support surface engageable, mounting brackets carrying said first and second end portions of said light transmitting bar, said first bracket having a recess in which said bar first end portion is fixedly recessed; and

a narrow beam light emitting diode located in said first mounting bracket and aimed longitudinally of said light

transmitting member to make said light transmitting member more visible.

61. (New) The apparatus of Claim 60 wherein said light transmitting bar has one portion of a first relatively larger thickness, and its said first end portion is of a second relatively smaller thickness extending from said one portion and having a substantially planar end face, said first end portion being telescoped in said recess, said light emitting diode being disposed in said recess adjacent the inboard end of said bar and aimed at said bar inboard end.

62. (New) The apparatus of Claim 60 in which said recess comprises (1) a relatively larger diameter outboard portion receiving said bar first end portion and (2) a relatively smaller diameter inboard portion receiving said light emitting diode.

63. (New) The apparatus of Claim 60 in which said recess and bar first end portion have engageable peripheral walls, at least one of which tapers, the central axes of said recess and bar end portion being in one of a range of relative angular positions.

64. (New) The apparatus of Claim 60 in which said bar comprises a plastic extrusion, said bar having an intermediate portion of substantially constant cross section between said first and second end portions, at least one said end portion having a machined outer periphery and said bar intermediate portion has an outer peripheral surface with a user grip enhancing contour.

65. (New) The apparatus of Claim 64 in which said contour has axially parallel, circumferentially spaced contour elements selected from the group consisting of grooves and ribs.

66. (New) The apparatus of Claim 60 in which said bar first end portion has an annular groove, and an annular seal ring bearing on an interior peripheral surface of said recess, said bar first end portion being frictionally, removably, fixed in said recess.

67. (New) The apparatus of Claim 60 in which said second bracket has a second recess, said bar second end portion being telescoped in said second recess, a reflecting member in said second recess inboard of and facing said bar second end portion, structure in said second recess backing said reflecting member.

68. (New) The apparatus of Claim 60 wherein said first mounting bracket is hollow, said light transmitting bar having its said first end portion telescoped in said recess in said first mounting bracket, said light emitting diode being fixed in said hollow bracket and aimed at the adjacent end of said light transmitting bar, an electric storage cell replaceably located in said hollow first bracket and connected in circuit with said light emitting diode.

69. (New) The apparatus of Claim 68 in which said first bracket has a cell entry/exit portal to facilitate cell replacement.

70. (New) The apparatus of Claim 68 in which an ambient light responsive, cell conserving switch is carried by said first bracket and connected in circuit with said light emitting diode and cell.

71. (New) The apparatus of Claim 68 in which said hollow first bracket is sized to carry a battery pack at least as large as two commercially available AAA cells.

72. (New) The apparatus of Claim 60 in which said light emitting diode has a light output of night vision preserving, colored hue.

73. (New) The apparatus of Claim 72 in which said hue is selected from the group consisting of at least one of the red, yellow and green portions of the visible light spectrum.

74. (New) The apparatus of Claim 60 including a low voltage electric current supply unit, of voltage lower than conventional AC household electric current and connected in circuit with said light emitting diode,

said first mounting bracket compactly pocketing said first end portion of said light transmitting bar, said light emitting diode, and said low voltage current supply unit.

75. (New) The apparatus of Claim 74 in which said low voltage electric current supply unit comprises an electric storage cell connected in circuit with said light emitting diode, said mounting bracket including a releasable cell holding member replaceably locating said cell.

76. (New) The apparatus of Claim 74 in which said low voltage electric current supply unit comprises (1) a 110 volt AC converter circuit having a direct current output path through said light emitting diode, and (2) insulated conductors extending from said handle to a remote 110 volt AC connector device.

77. (New) The apparatus of Claim 74 in which said first mounting bracket has an interior through passage, one end of said passage being fixed with respect to said first end portion of said bar, said light emitting diode and at least a portion of said electric current supply unit being disposed in said passage.

78. (New) The apparatus of Claim 77 in which said electric current supply unit comprises an electric storage cell replaceably housed in said passage.

79. (New) The apparatus of Claim 77 in which said current supply unit comprises an AC-to-DC converter in said passage and insulated AC conductors running from said passage and out of the other end of said through passage.

80. (New) The apparatus of Claim 44 in which said elongate light transmitting member's first end portion has a free end face which is diametrically planar, said light emitting diode having a light emitting end fixed immediately adjacent said diametrically planar bar free end face such that any clearance therebetween is a minor fraction of the diameter of said light emitting diode.

81. (New) The apparatus of Claim 44 in which said elongate light transmitting member first end portion having a free end which has an axially opening blind-ended hole substantially of the diameter and length of said light emitting diode and snugly housing therein said light emitting diode, said light emitting diode being aimed substantially toward the blind end of said hole.

82. (New) The apparatus of Claim 60 in which said recess comprises (1) a relatively larger diameter outboard portion receiving said bar first end portion and (2) a relatively smaller diameter inboard portion receiving said light emitting diode, said recess outboard and inboard portions having longitudinal axes which are parallel but radially spaced.